

Mukilteo Research Station

Background

The Northwest Fisheries Science Center's (NWFSC) Mukilteo Research Station has been at the forefront of ecosystem recovery and marine pollution research in the Puget Sound for nearly four decades. NOAA's Mukilteo scientists were among the first to conduct studies on the effects of contaminants on fish health in Puget Sound, and are currently exploring the ecological impacts of human activity, including shoreline development and stormwater runoff – all critical priorities for NOAA and Washington State's efforts under the Puget Sound Partnership to recover the Sound by 2020. Research at the Mukilteo station is also helping the agency address critical data gaps in the challenging areas of ecosystem-based management and conservation and recovery of endangered and threatened Pacific salmon. Threats such as emerging pollutants and ocean acidification pose

increasing concerns over the health of coastal areas of the California Current and the Puget Sound ecosystem. The cutting-edge fisheries research at Mukilteo supports NOAA's efforts to understand and minimize the impacts of human activities, including climate change, on the Nation's trust resources.



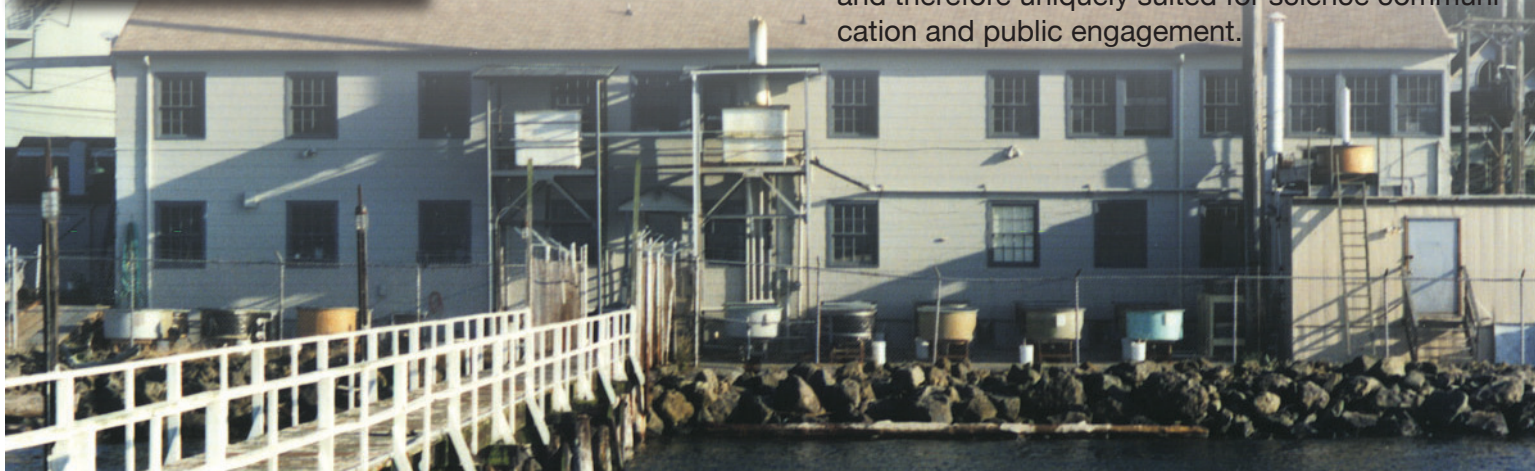
Features of the Facility

Important features of the research facility include:

- Access to large volumes of high quality seawater supporting a wide range of sensitive studies on marine fish species, shellfish, and their habitats.
- A waterfront facility with a deep water pier, enabling live specimens to be immediately transferred from research vessels to laboratories.
- A central Puget Sound location with convenient small boat access to multiple salmon estuaries and other field research locations.
- Proximity to the University of Washington and the NWFSC headquarters in Seattle, creating opportunities for collaboration with NWFSC and UW scientists and students.
- Specialized laboratories for investigating how marine species are responding to increasing ecosystem-scale pressures, from ocean acidification to toxic stormwater runoff.
- A collaborative work environment for scientists, educators, and students.
- A site that is highly visible within the community, and therefore uniquely suited for science communication and public engagement.



Location of NWFSC headquarters and research stations.





Mukilteo Research Station

Research Activities

Research activities conducted at the Mukilteo Research Station focus on aquatic toxicology; life history, culture and restoration of aquatic species; ecosystem function and restoration monitoring; and effects of changing environmental conditions (i.e., ocean acidification) on living marine resources.

Highlights include:

- Studies on the effect of chemical contaminants (e.g., crude oil, pesticides, and metals in stormwater run-off) and naturally occurring toxins (e.g., algal blooms, viral and bacterial pathogens) on the health of fish and other marine organisms.
- Studies on cultured marine species (e.g., rockfish, Pinto Abalone) to investigate the impacts of over-fishing, habitat loss, and other factors.
- Investigations on the effectiveness of restoration strategies in Puget Sound ecosystems to recover juvenile salmon and other species.
- Studies on impact of ocean acidification on marine ecosystems, including the marine food webs and species of economic importance, such as oysters and crabs.
- Studies on the basic characteristics of the Puget Sound ecosystem and how they might be affected by human influences.

Partnering Organizations:

- Battelle Northwest
- Beach Watchers
- County Marine Resource Committees
- Seattle Metro Water Quality Laboratory
- Seattle Aquarium
- Skagit River System Cooperative
- Tacoma Zoo and Aquarium
- Tulalip Tribes
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- University of Washington
- Washington State Department of Fish and Wildlife
- Washington State University

Community Outreach Activities

- Facility staff conduct outreach to schools and youth groups through hands-on educational activities with marine animals and healthy habitats, including students in the districts of Mukilteo, Edmonds, Snohomish, Marysville, Federal Way, Shoreline, and Lake Washington.
- Community outreach to local clubs and associations to promote environmental stewardship to the public.
- Professional preparation and training of future scientists, including mentoring programs, for K-12 public school, undergraduate and graduate students, and regional Tribes.

Future Considerations

Following transfer of land ownership to NOAA (anticipated 2011 or 2012), future development plans for the facility include:

- Upgraded, state-of-art laboratories for aquatic toxicology, restoration of marine species and ecosystems, and ocean acidification.
- Increased seawater flow capacity, improving existing laboratory studies and allowing for more research.
- Improved infrastructure to support a fleet of small boats, field gear and supplies.
- Development of an outreach and education center along the planned waterfront promenade which will expand public outreach about NOAA and its work.

Contact

Northwest Fisheries
Science Center
(206) 860-3200

